

**Remarks**

**Claim Status**

Claims 1-35 were originally presented for examination in this application. An election of species requirement was issued on April 9, 2007, in response to which Applicant elected Species IV, corresponding to Figures 11-13 and claim 34, and further indicated that claims 1-13, 19, 25-28 and 35 are readable on Species IV. As such, claims 14-18, 20-24 and 29-33 were withdrawn from consideration. An office action was issued on November 28, 2007, in which:

- Claims 1-13, 19, 25-28, 34 and 35 were rejected under 35 U.S.C. §112, second paragraph as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicant's regard as the invention; and
- Claims 1-13, 19, 25-28, 34 and 35 were rejected under 35 U.S.C. §102(e) as being anticipated by U.S. Patent No. 6,687,681 to Schultz et al. ("Schultz").

In response, Applicant amended claims 1-3, 5-10, 12, 13, 19, 26-28, 34 and 35 to address these rejections and to further clarify and describe the invention with greater particularity. Applicant also added new claims 36-40. A final office action issued on May 30, 2008, in which:

- Claims 1-13, 19, 25 and 36-37 were rejected under 35 U.S.C. §112, second paragraph as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicant's regard as the invention;
- Claims 1-13, 19, 25-28, 34 and 35 were rejected under 35 U.S.C. §102(e) as being anticipated by U.S. Patent No. 6,687,681 to Schultz et al. ("Schultz"); and
- Claims 36-40 were rejected under 35 U.S.C. §103(a) as being obvious in light of Schultz and U.S. Patent No. 7,016,873 to Peterson et al. ("Peterson").

In this response, Applicant has amended claims 1, 5-10, 19, 25, 26, 35, 36 and 38 to address these rejections. Support for these amendments can be found throughout the

specification as originally filed and at least at pages 64-68. No new matter has been added.

Examiner Interviews

Applicant would like to thank Examiner Diaz for her time and helpful suggestions regarding the pending claims during the telephonic interviews of August 25, 2008 and August 28, 2008. The following is intended to constitute a proper recordation of the interviews in accordance with M.P.E.P. §713.04.

Claim Rejections Under 35 U.S.C. §102(e)

Independent claims 1, 8, 26 and 35 as amended, each recite optimizing a financial portfolio for after-tax returns and total tax costs based on proposed transactions generated in response to investment styles (claims 1 and 26) or model portfolios (claims 8 and 35). The Schultz system simply cannot perform such an optimization. More specifically, the claimed methods and systems consider potential adjustments to numerous positions held in the financial portfolio in such a manner as to consider risk, return, short term capital gains, short term capital losses, long term capital gains and long term capital losses associated with execution of each of the possible adjustments.

Schultz describes techniques for rebalancing individual portfolios to track a selected index and independently of the rebalancing process, selecting securities for tax loss harvesting.<sup>1</sup> These two processes are, however, completely unrelated – in fact nowhere does Schultz describe how the rebalancing process is impacted or modified based on potential tax implications. Specifically, the rebalancing process merely “determines the securities to be purchased for a given account based on the capitalization weight of each security in the index and an industry balance parameter.”<sup>2</sup> The process continues, as “after the securities in the system are selected, security purchase information is transmitted to the trading system, which in turn purchases the securities.”<sup>3</sup> As described, the purchases are executed blindly, without regard to how the purchase (or

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<sup>1</sup> Schultz, col. 7, lines 51-54

<sup>2</sup> Schultz, col. 8, lines 24-27

<sup>3</sup> Schultz, col. 8, lines 32-35

sale) impacts an individual's total tax position. The purpose is simply "to assure that the accounts will model the performance of the index."<sup>4</sup>

Separate and distinct from the rebalancing process "each selected account is also evaluated for purposes of harvesting tax losses."<sup>5</sup> The harvest process consists of selecting securities for trading if a loss generated by selling a security is above a certain threshold and selecting replacement securities to take its place.<sup>6</sup> Because the process is executed on a position-by-position basis (e.g., if a loss in a particular security trips the threshold, the security is sold without regard to other positions in the portfolio), no thought is given to the overall long-term or short-term capital gains position of the portfolio – a key component of a client's overall tax burden. The only consideration of tax implications of any transaction is the limitation of the frequency of the harvesting process to avoid so-called "wash sales."<sup>7</sup> By limiting the frequency to 31 days, the Schultz technique may avoid the limitation of selling only certain tax lots (e.g., those purchased more than 30 days prior to the sale), but is still constrained to selling a particular security.

In contrast, Applicant's invention optimizes after-tax returns by considering the implication of one or more of various numerous proposed trades on a portfolio's total tax costs and risk exposure. As such, the information generated by the claimed apparatus and related methods can, for example, be used to determine whether the transactions should be made in the first place.

For purposes of an example, assume that a portfolio initially bought \$200,000 of each of five securities, totaling \$1MM, and the portfolio's owner has a capital gains rate of 15% and an income tax rate of 35%. Further, during a particular tax year, the portfolio has realized a long-term capital gain of \$50,000 via previous trades associated with this or other portfolios. Subsequently, after some period of time during which the values of the purchased securities have changed, the portfolio consists of the following positions:

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<sup>4</sup> Schultz, col. 8, lines 46-47

<sup>5</sup> Schultz, col. 9, lines 5-6

<sup>6</sup> Schultz, col. 9, lines 9-16

<sup>7</sup> Schultz, col. 4, lines 55-61

Ticker	Shares Owned	Purchase Date	Original Cost Per Share	Market Value Per Share	Unrealized Gain / Loss	Holding Period	Gain / Loss Percentage
A	2,000	1/1/2008	\$100.00	\$120.00	\$20.00	Short Term	20%
B	2,000	1/1/2007	\$100.00	\$89.00	-\$11.00	Long Term	-11%
C	2,000	1/1/2008	\$100.00	\$90.00	-\$10.00	Short Term	-10%
D	2,000	1/1/2007	\$100.00	\$84.00	-\$16.00	Long Term	-16%
E	2,000	1/1/2008	\$100.00	\$110.00	\$10.00	Short Term	10%

Using the technique described in Schultz (assuming a 15% loss threshold), the only transaction that would be considered would be to sell all 2,000 shares of security D, thus generating a long-term loss of \$32,000 ( $\$200,000 - (\$84 \times 2,000)$ ). While the owners tax liability improved from \$7,500 ( $\$50,000 \times 15\%$ ) to \$2,700 ( $(\$50,000 - \$32,000) \times 15\%$ ), the decision to sell security D is based solely on meeting a percentage loss threshold, not on an overall tax strategy. The fact that owner had a \$50,000 gain that could be offset by the \$32,000 loss was pure happenstance, as even without the gain security D would still have been sold at a loss.

In contrast, Applicant's invention can look at multiple possible portfolio adjustments to determine if one particular sale is more beneficial (from a tax perspective) than another. Using the example above, instead of blindly selling D and hoping that the loss can be used to offset other gains, each possible sale is analyzed for its tax implications. Using the claimed techniques it may be determined that selling a combination of securities results in a more favorable tax position (e.g., no tax due) and is consistent with an overall risk profile set for the portfolio. For example, the sale of 1,000 shares of security B and security C along with a sale of 1,812 shares of security D results in a total loss of \$50,000<sup>8</sup>, an no net taxes.

As can be seen in the example above, the Schultz system generates a sell order merely to minimize the tracking error with respect to an index without regard to the tax implications on individual accounts. Using the claimed technique, however, the proposed

transaction may not be executed if, for example, selling the shares would result in a short-term gain within the portfolio that could not be offset by an equivalent (or at least similar) short-term loss. In other instances, the sale may be executed because that portfolio already has loss carry forward or previously realized losses that can offset the gain realized by selling another position. Unlike Schultz's consideration of wash sales, such a loss may have been generated months prior and been the result of a sale of a different security. Therefore, the invention provides a significant improvement over conventional portfolio management strategies such as Schultz by considering the total tax implications of proposed trades prior to execution and in consideration of past transactions across numerous positions in a portfolio.

Thus, because Schultz does not teach or suggest every element of independent claims 1, 8, 26 or 35 as amended, Applicant respectfully submits that this reference fails to anticipate these claims. Accordingly, Applicant respectfully requests reconsideration and withdrawal of the rejection of claims 1 and 26 under 35 U.S.C. §102(e), as well as those claims that depend directly or indirectly therefrom.

#### Claim Rejections Under 35 U.S.C. §103(a)

The Examiner cited Peterson in combination with Schultz in her rejection of dependent claims 36-40. While Peterson does utilize an objective function and various constraints to model a financial portfolio, his application of such a model is limited to providing "a recommendation of an investment portfolio that best satisfies the goals of the customer."<sup>9</sup> Unlike Applicant's invention that is designed to optimize a portfolio's overall return over time as specific transactions are contemplated and executed, Peterson is merely concerned with determining an optimal initial allocation across various investment vehicles in an attempt to estimate the future tax efficiency of an overall portfolio allocation. While the determination of how to invest a customer's funds does take into account the tax effects of the portfolio in view of her tax status, this consideration is limited to whether the positions in the portfolio are held in taxable or

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<sup>8</sup>  $(1000 \times \$11) + (1000 \times \$10) + (1812 \times \$16) = \$49,992$

<sup>9</sup> Peterson, col. 3, lines 41-43.

non-taxable accounts.<sup>10</sup> In fact, when describing the tax effects of selling securities, Peterson only contemplates the transactions' impact on overall portfolio risk, not specific tax implications associated with each transaction. Specifically, Peterson states:

"Given the estimation error inherent in variance-covariance estimates, the added level of precision associated with adjusting these estimates for taxes seems like overkill. The existence of taxes would reduce variance calculations relative to their pre-tax levels. Moreover, the less tax efficient the asset the more the variance is reduced. Therefore, by not adjusting variances for tax effects a slight tendency towards the optimizer favoring less tax efficient assets is avoided."<sup>11</sup>

Peterson then states further that "when users rebalance they may incur transactions costs and taxes. Since these costs are difficult to estimate and tend to be small they are not included in future forecasts or in the optimization."<sup>12</sup> Again, using an example to highlight the key difference between Peterson and the claimed technique, consider an investment product (e.g., a mutual fund) that has a certain level of tax efficiency. Peterson addresses the decision of whether or not to purchase that fund as part of an initial allocation of assets, and if so whether to put it in a qualified (i.e., tax-deferred) account. Conversely, Applicant's approach considers the tax implications of day-to-day transactions, thus requiring the incorporation of tax constraints into the objective function. Clearly, Peterson actually teaches away from considering the tax implications of individual transactions within a portfolio.

Thus, because Peterson does not teach or suggest every element of claims 36-40, Applicant respectfully submits that this reference fails to render these claims as obvious. Accordingly, Applicant respectfully requests reconsideration and withdrawal of the rejections under 35 U.S.C. §103(a).

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<sup>10</sup> Peterson, col. 3, lines 43-45 and col. 4, lines 2-3.

<sup>11</sup> Peterson, col. 14, lines 37-45.

<sup>12</sup> Peterson, col. 19, lines 40-44.

**Conclusion**

Applicant respectfully submits that, in light of the foregoing amendments and remarks, claims 1-13, 19, 25-28 and 35-40 are in condition for allowance, and requests that application proceed to issue. If, in the Examiner's opinion, a telephonic interview would expedite the favorable prosecution of the present application, the undersigned attorney would welcome the opportunity to discuss any outstanding issues and to work with the Examiner toward placing the application in condition for allowance.

Respectfully submitted,

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